Rapid Assessment of Market Change in the South

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Problem

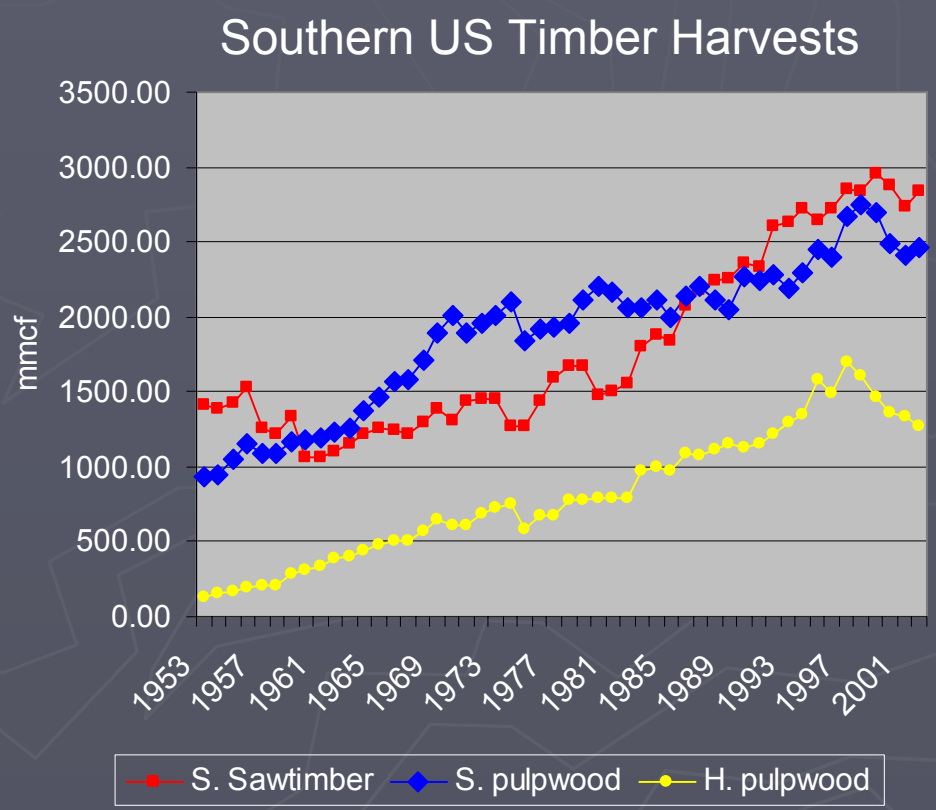
- Perception that there has been a loss of markets in southern region to foreign competition
- Declining returns to investment as indicated by declining stumpage prices
- Unclear future of the southern forest resource

Objective

- Analyze recent structural changes in markets using best available data
  - harvests and prices
  - demand and supply factors
- Consider potential implications for the future of the southern forest sector

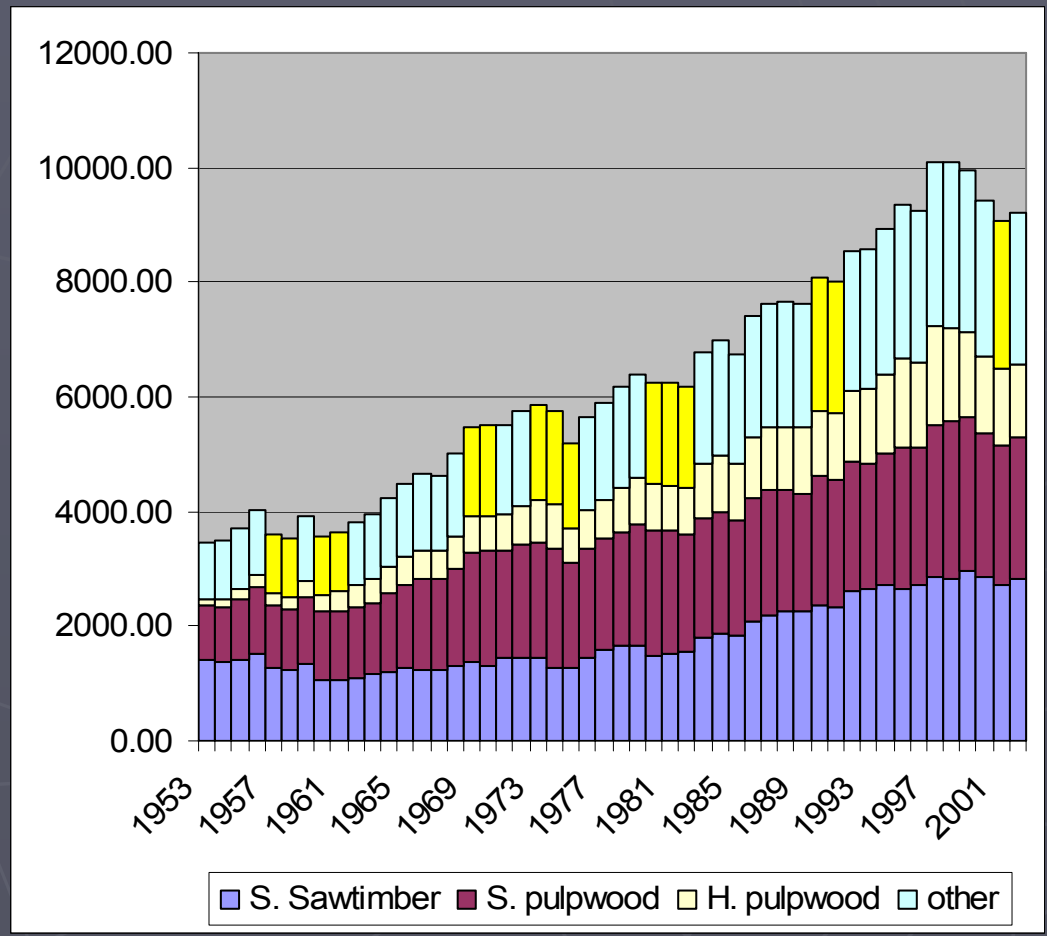
What Has Happened?
--Harvests--

- Steady growth ’62-’98
- Declining harvests ’98-’01
- Softwood and hardwood pulpwood harvests declined 11% and 21% from ’98-’01
- Softwood sawtimber harvests were more stable



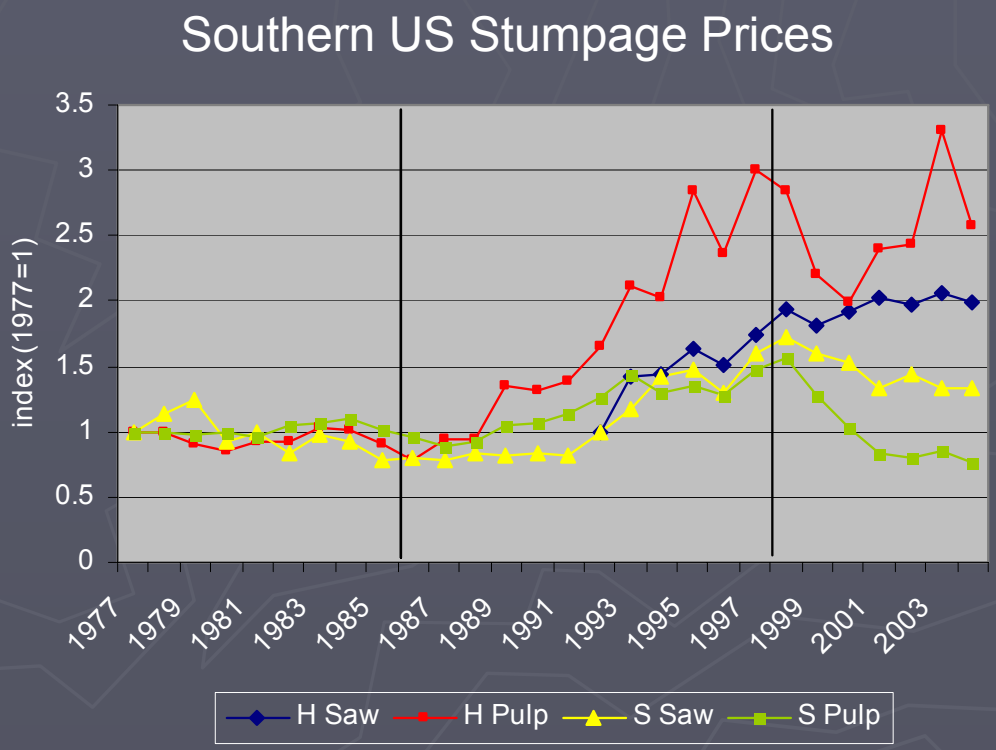
Harvests (continued)

- Yellow bars indicate recession years
- This is the first decline in production not associated with a recession
- Structural changes are indicated

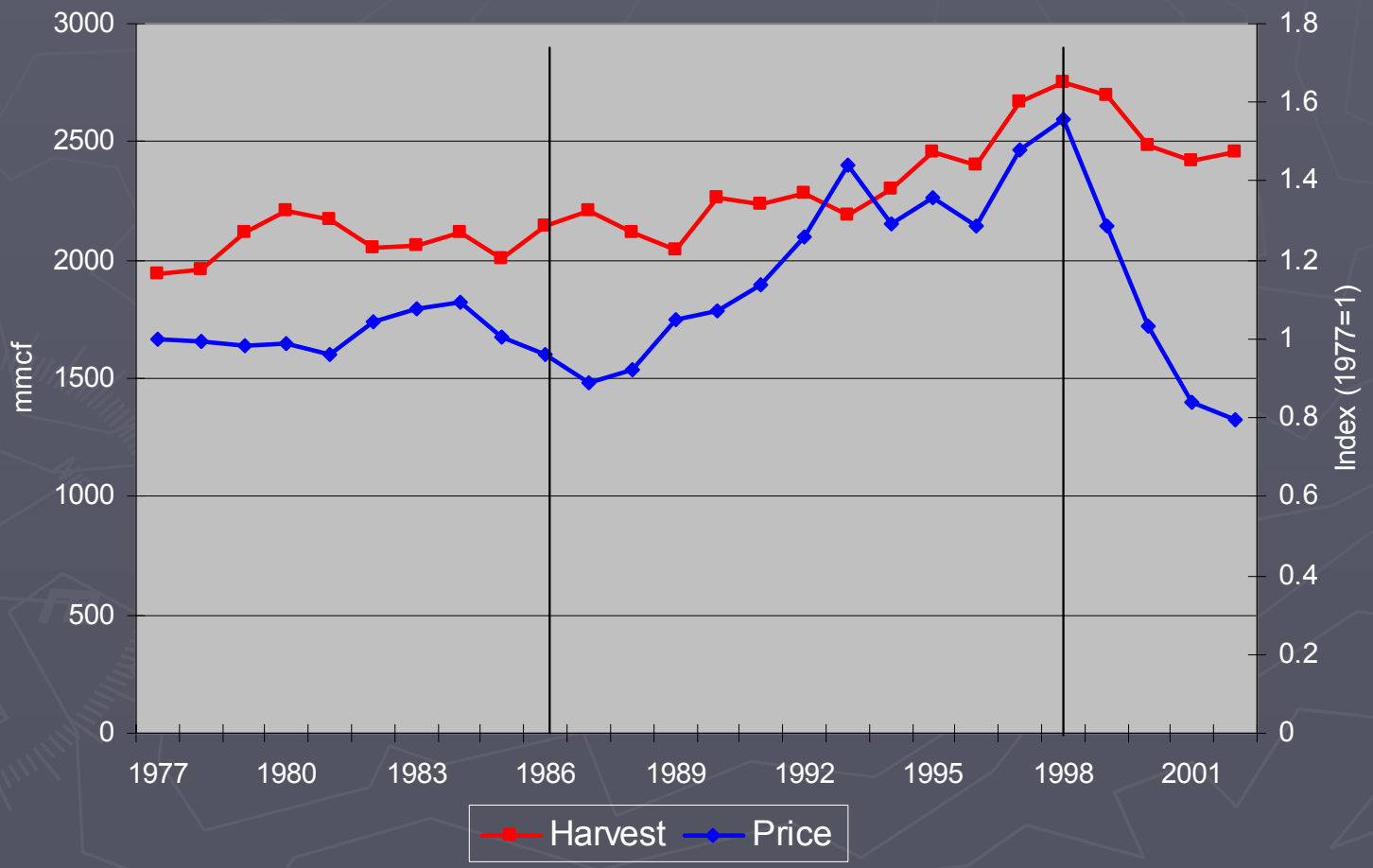


What Has Happened?
--Prices--

- Biggest declines were in softwood pulpwood since ‘98.
- Softwood sawtimber not impacted as severely.
- Hardwood pulpwood more volatile but regained strength since 2000.



Softwood Pulpwood Markets Most Impacted



Summary of Changes

- Moderate Growth Phase (1977-1986)
  - Harvests increased at a moderate rate
  - Prices constant or declining for all three products (soft. pulp., hard. pulp, soft saw.)
  - Consistent with demand and supply expanding
- Rapid Growth Phase (1986-1998)
  - Harvests increasing at a faster rate
  - Prices increasing at a higher rate than harvests
  - Consistent with strong outward shift in demand

Summary of Changes

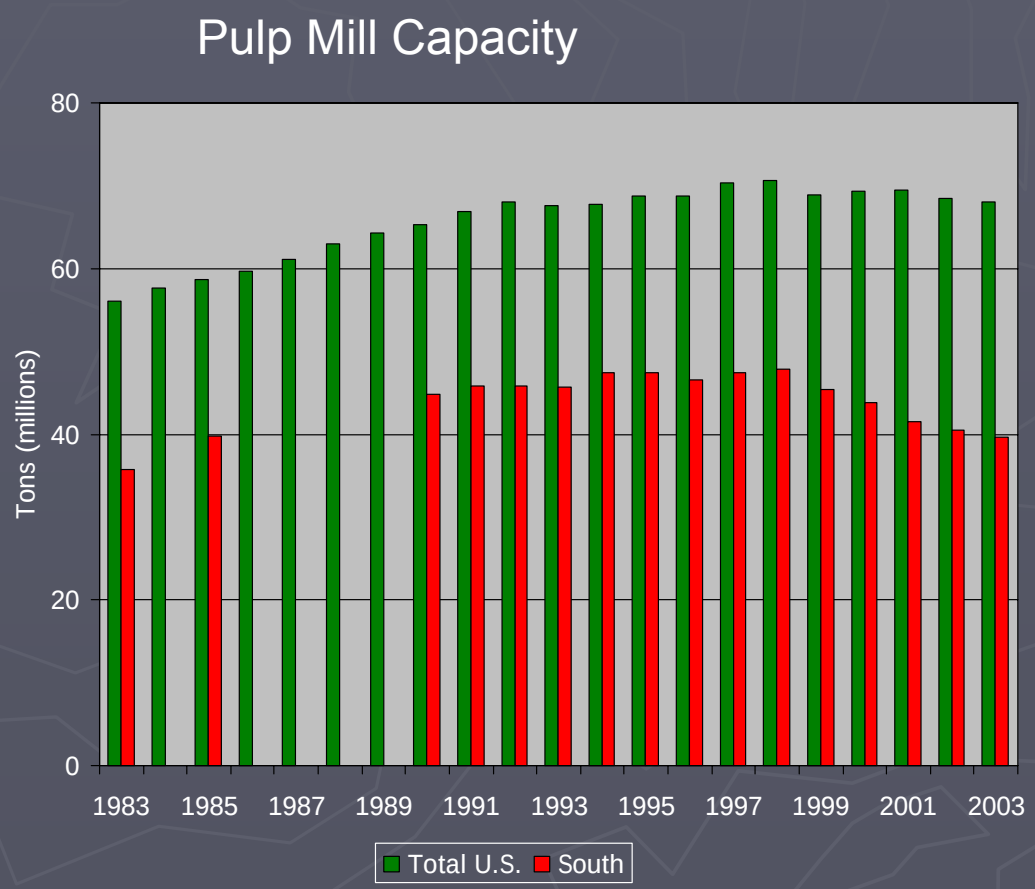
- Adjustment Phase (1998-2002)
  - Both harvests and prices declining for pulpwood
  - Consistent with demand contraction for pulpwood, especially
  - For sawtimber, harvests leveled off with declining prices
    - Consistent with expansion of sawtimber supplies

Market Factors Examined

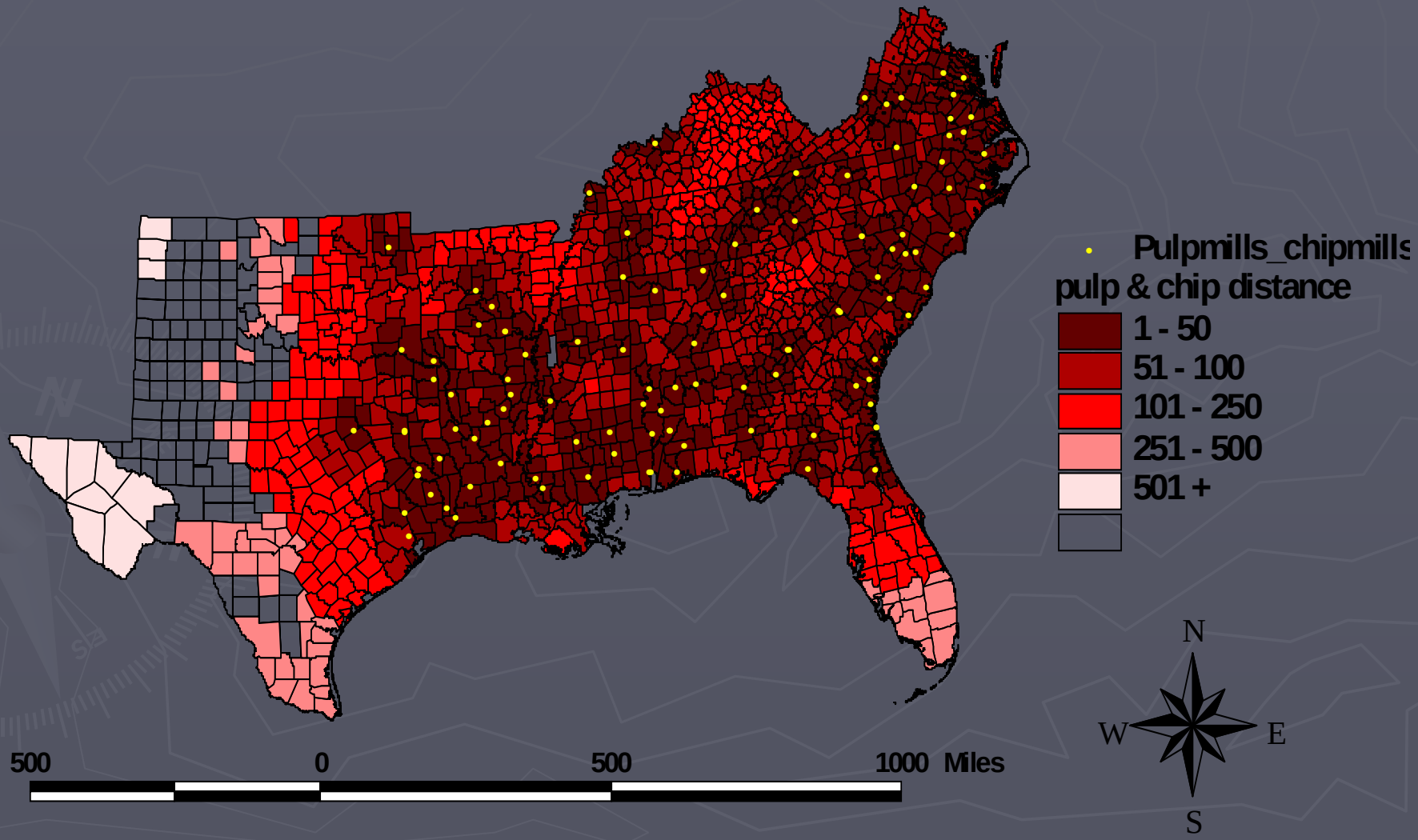
- Demand Factors
  - Competing products--substitution and technical change
  - Domestic demand
    - Capacity data
  - International trade
- Supply Factors
  - Land use
  - Investment
  - Ownership
  - Inventory

Domestic Demand--Pulpwood

- Southern pulping capacity down 16% since 1998 and down relative to US production
- No indications of increasing domestic demand
  - Per capita use of paper products declines
- Capacity expanding in other countries
  - e.g., Chile, Brazil, Finland
- Loss of comparative advantage in new markets (costs)

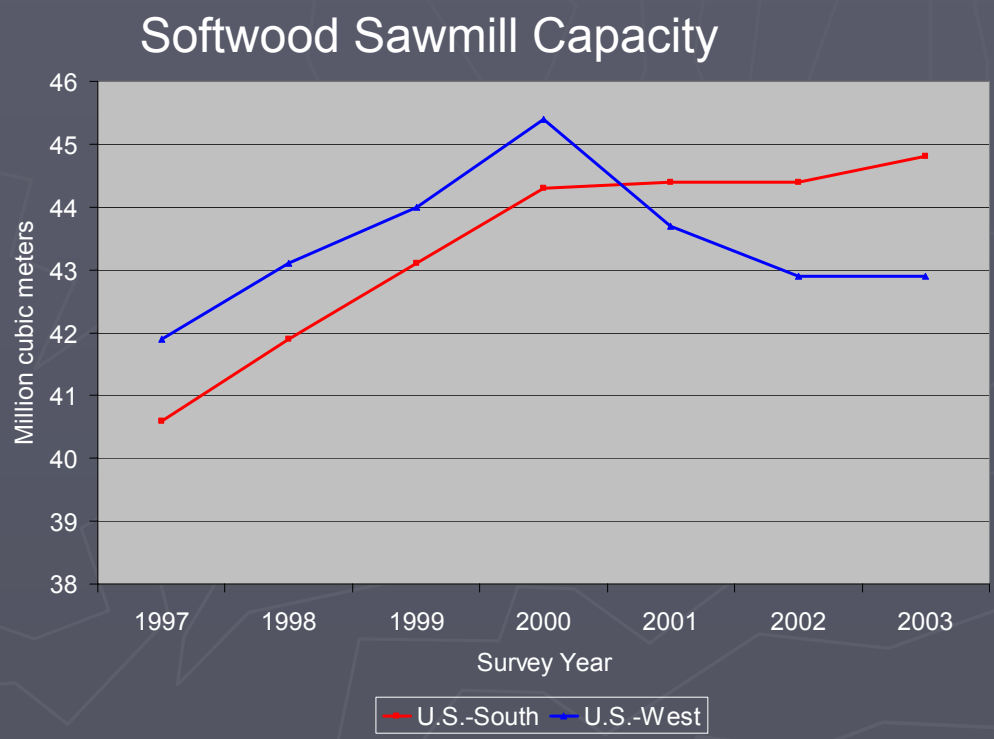


Average Distance to Pulpmills and Chipmills in the South

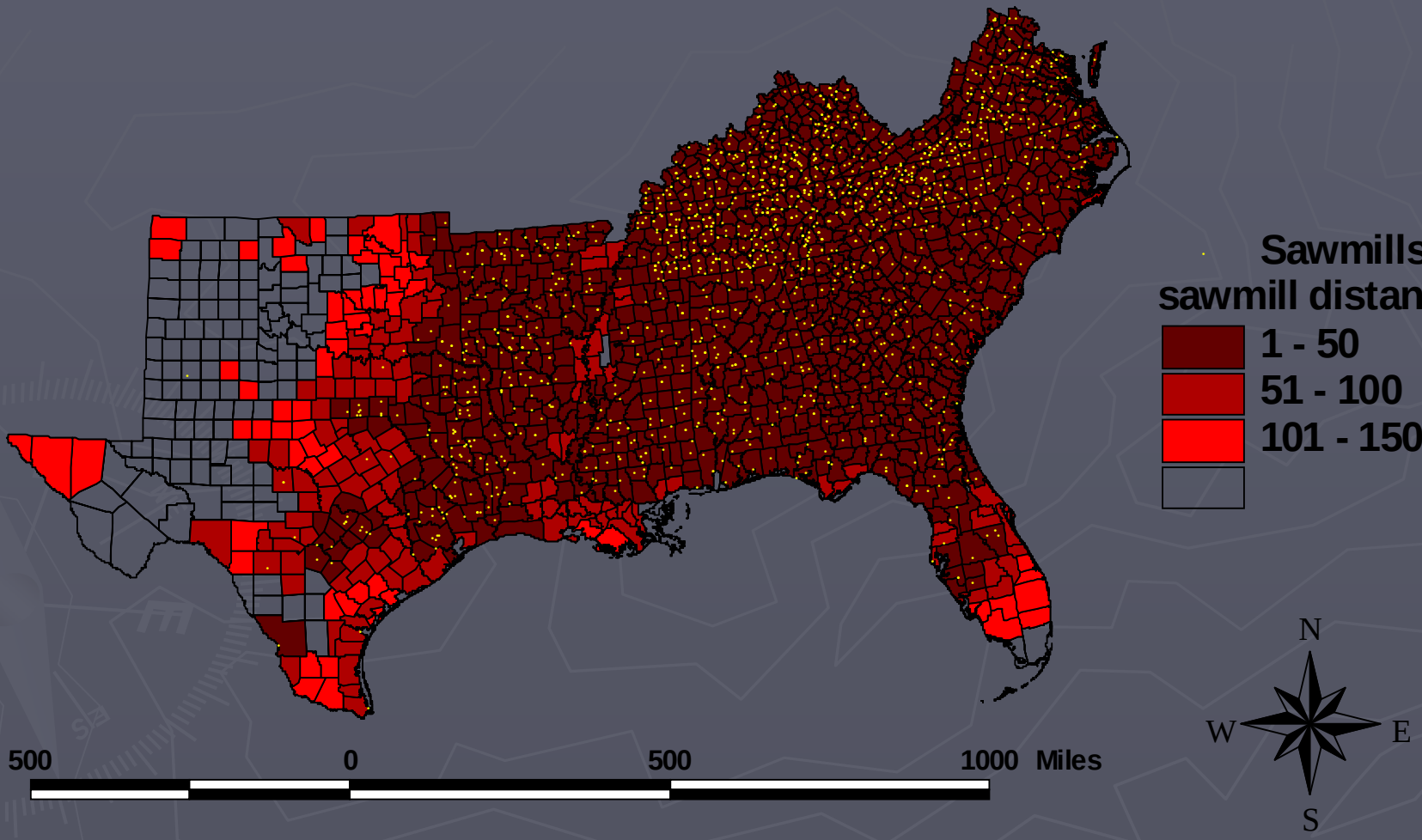


Domestic Demand--Lumber

- Southern softwood lumber capacity increasing 1997-2003
- No indication of decreasing demand overall
  - Even given increases in engineered wood products

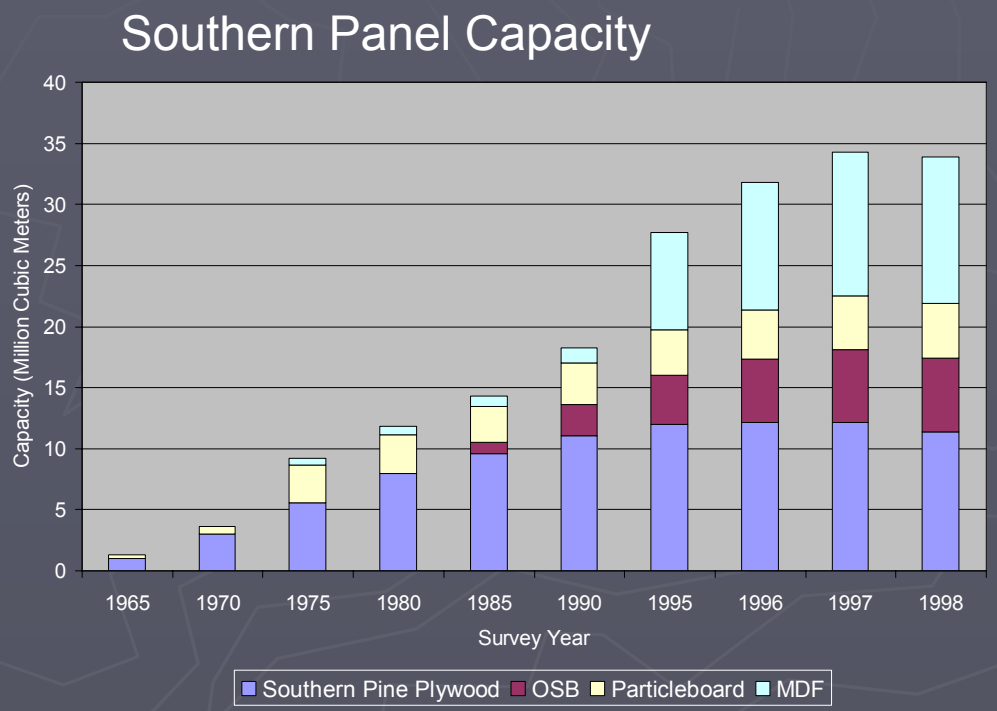


Average Distance to Sawmills



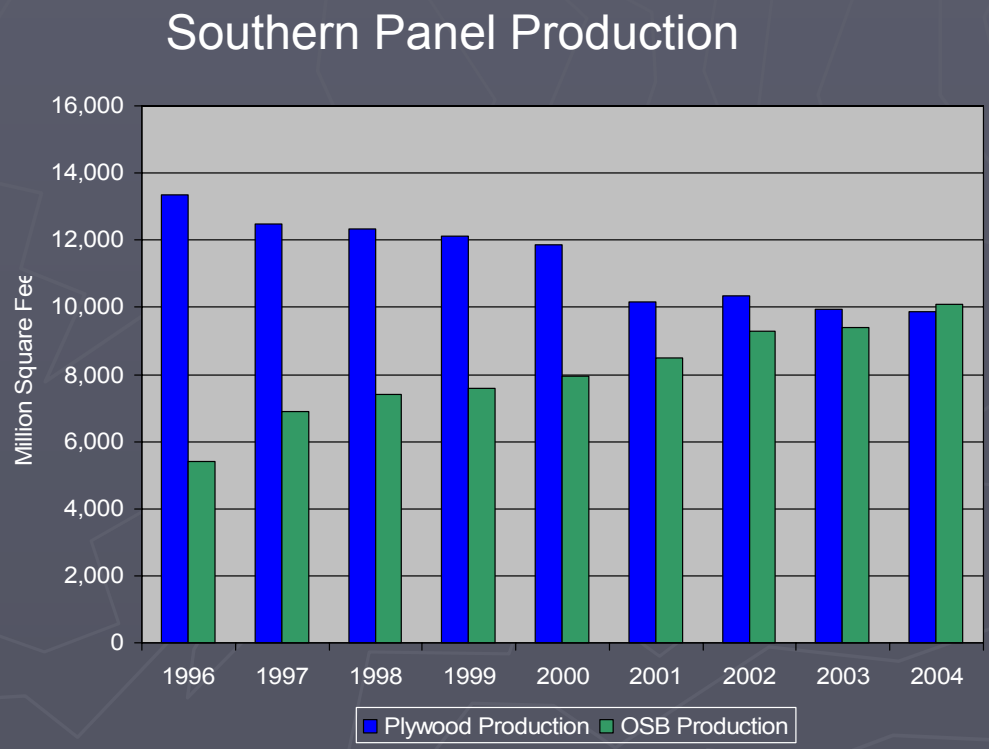
Domestic Demand--Panels

- Panel capacity grew strong through 1997
- Shift from solid wood raw material to chips and fiber



Domestic Demand--Panels

- No indication of decreasing demand
- Total southern panel production stable
- OSB production grew 8.1% per year from ‘96 to ‘04

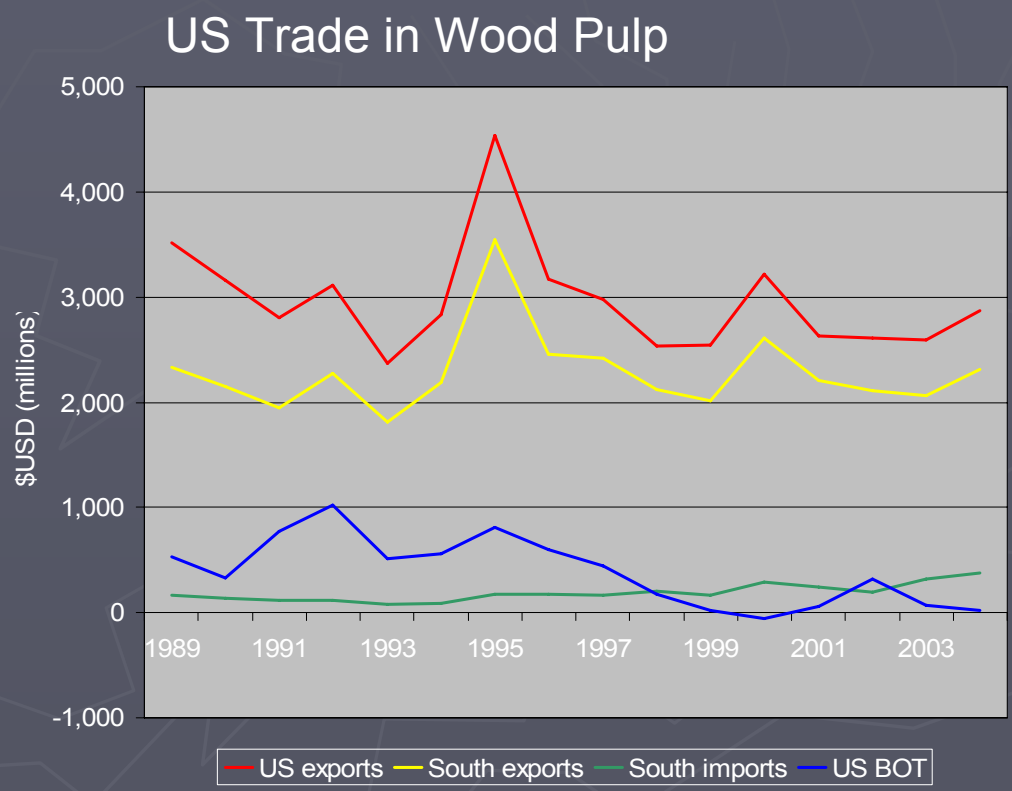


Domestic Demand--Summary

- Demand, as measured by capacity, is stable for most products, with the notable exception of pulpwood.
- Southern pulpwood capacity has declined in both absolute terms (declined 16% since 1998), and relative to total US capacity.
- Demand by pulp mills somewhat offset by increasing demand for OSB and, to a lesser degree, engineered products.

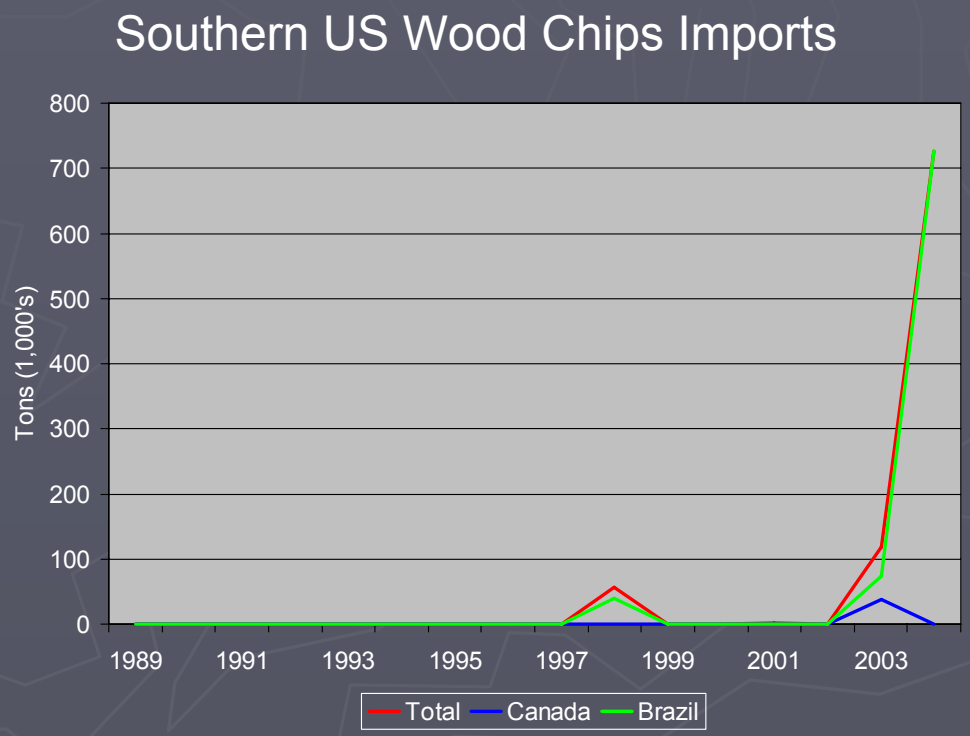
Trade--Wood Pulp

- US exports roughly equal to imports in recent years
- US southern ports export ~7 times imports
- Southern imports however have increased to 2-3% of total southern wood pulp production



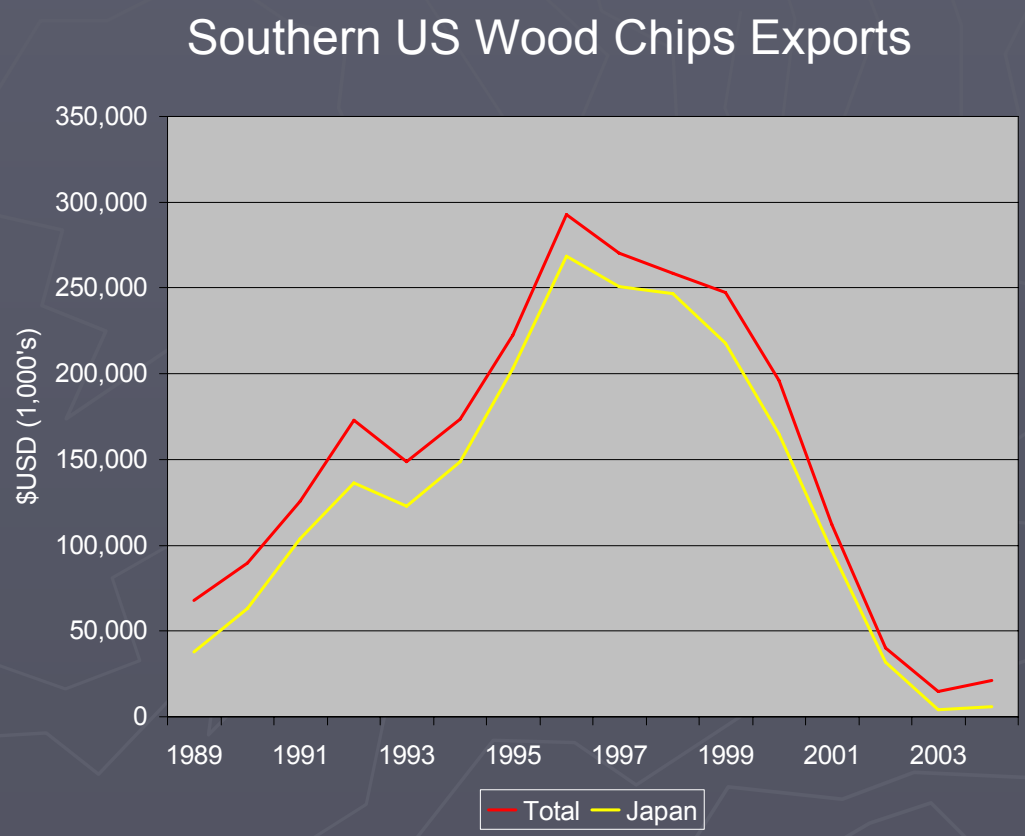
Trade--Wood Chips--Imports

- Brazilian imports of eucalyptus wood chips much higher since 2002
- But, only 0.9% of total southern chip production
- Addressing local scarcity of hardwood



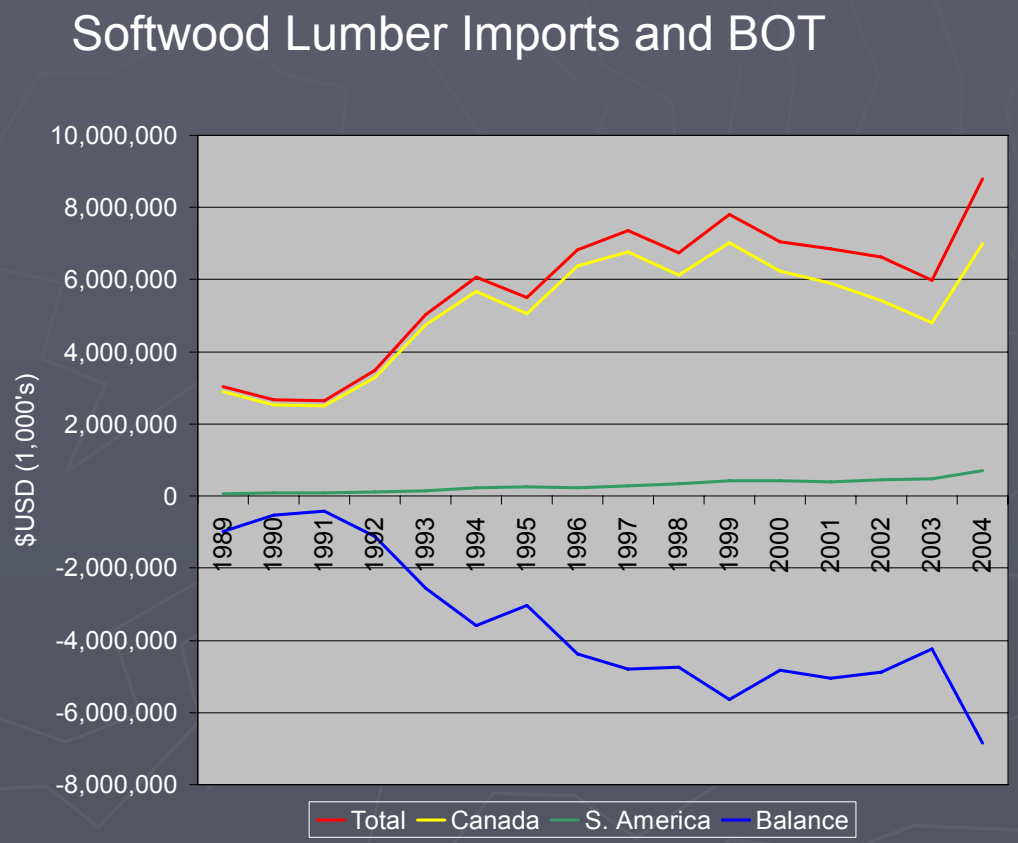
Trade--Wood Chips--Exports

- Near complete loss of exports to Japan
- Would account for ~9% of southern chip production in 1996
- Significant reduction in domestic demand



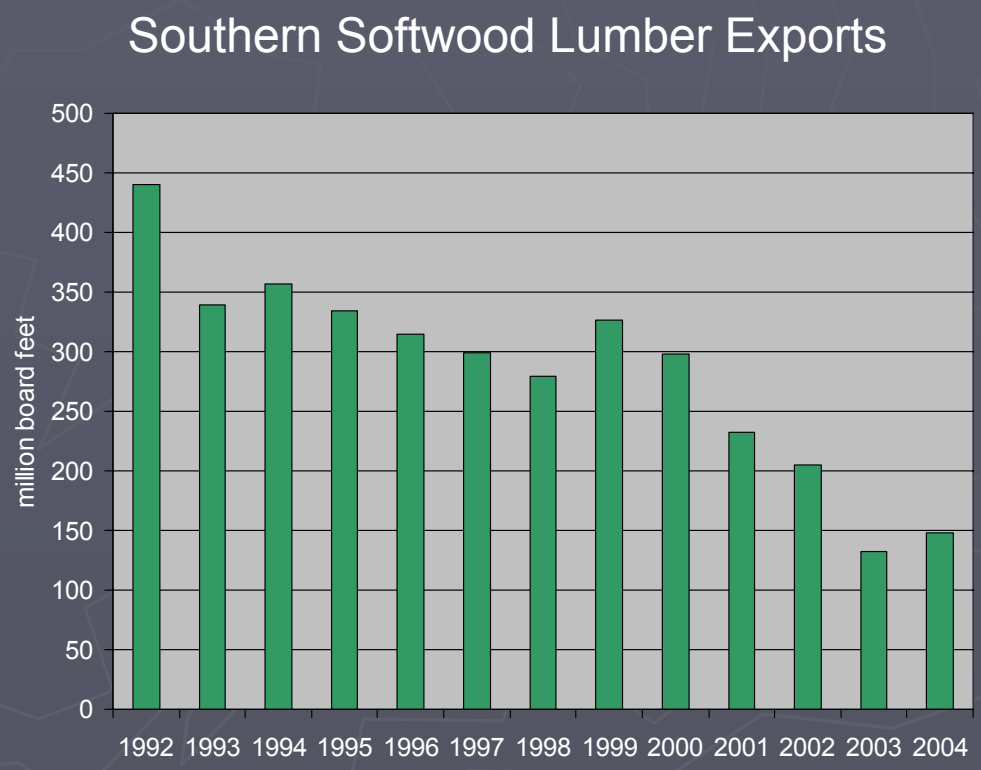
Trade--Lumber--Imports

- Canada by far leading importer of lumber into US
- However, little direct impact on southern lumber demand
- Imports from S.A. small but rising



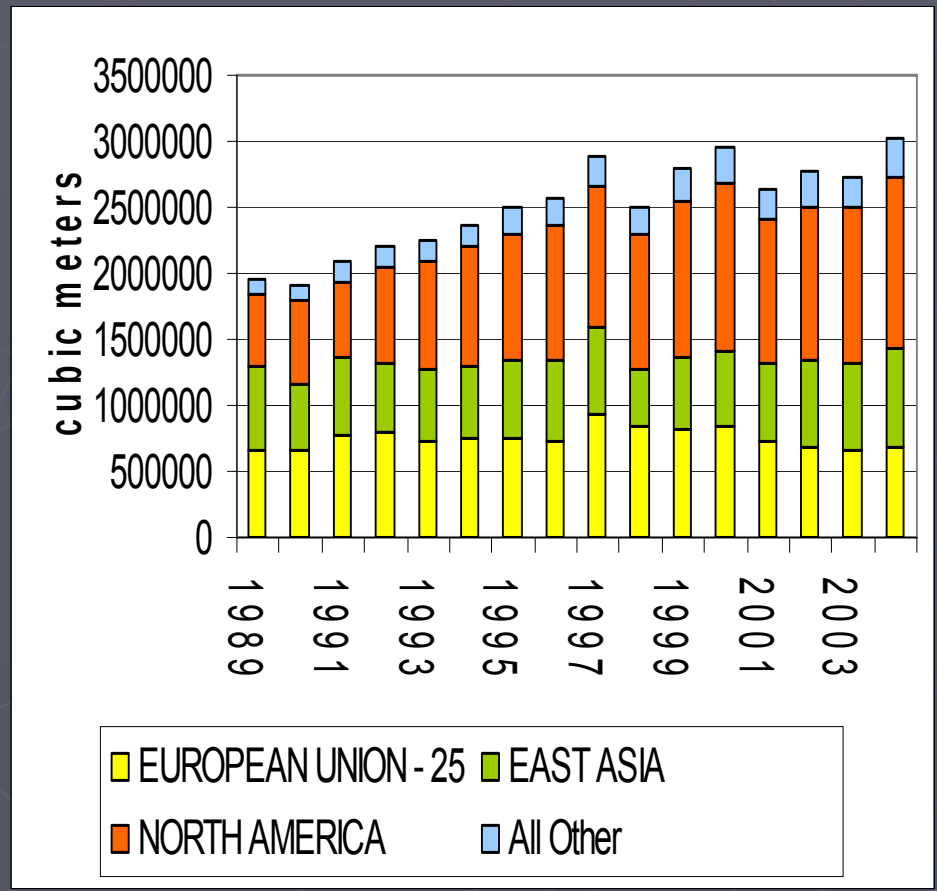
Trade--Lumber--Southern Exports

- Lumber exports from US South small and have declined over time
  - About 2 percent of southern production in 1995
  - <1 percent in 2004



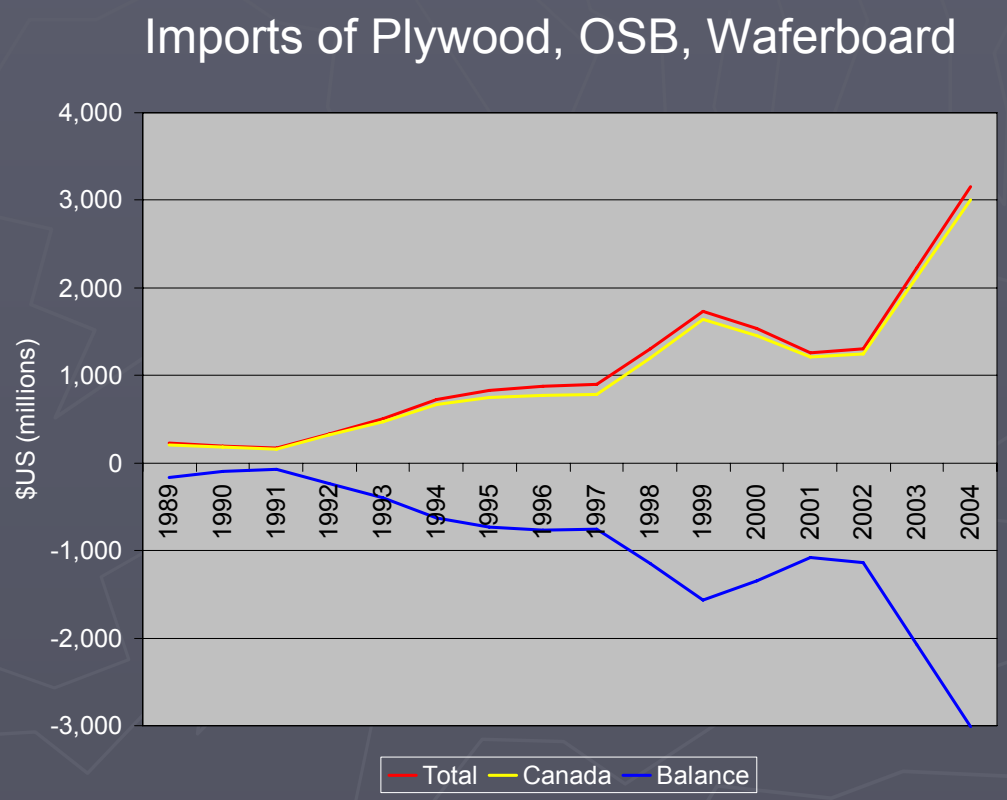
Trade-Hardwood Lumber-US Exports

- Increased by about 50% between 1989 and 2004
- Canada is most important trading partner
- Big increase in shipments to China offsetting declines in shipments to other countries in Asia



Trade--Panel Products

- Import nearly all from Canada
- Imports rising significantly since 2002
- No exports to speak of



Trade--Summary

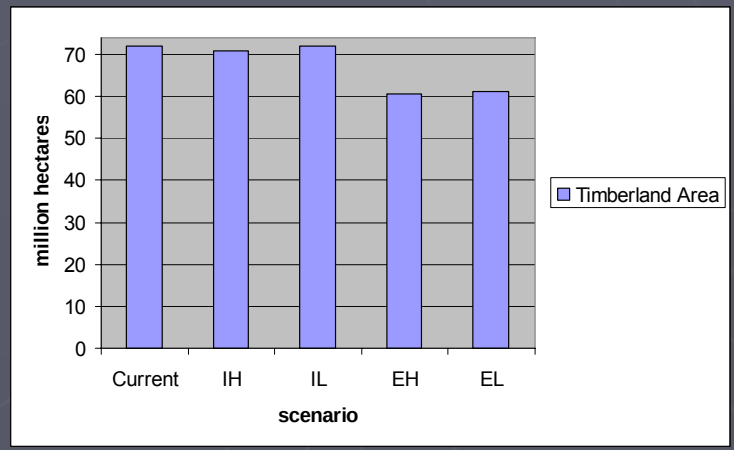
- Loss of southern softwood chip exports to Japan
  - At peak, 9% of 2002 southern chip production
  - Reduction in domestic demand for pulpwood
- Imports of raw material (wood chips) are currently small but could rise in response to local scarcity
- Increases in panel imports such as OSB dampen domestic demand for smaller diameter wood

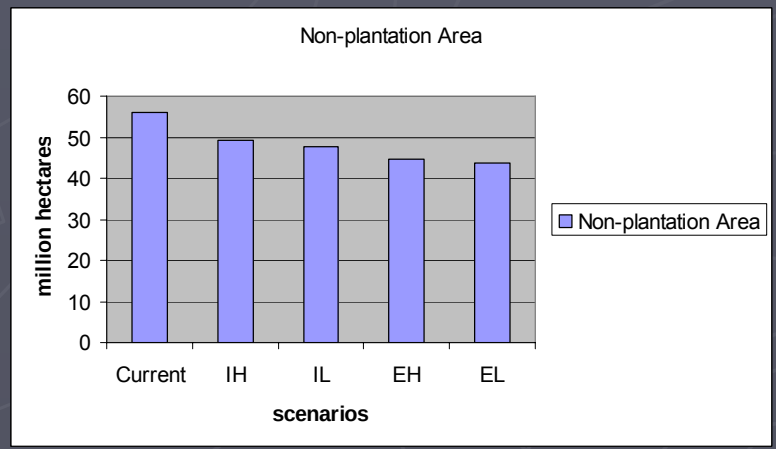
Supply--Land Use

- Historically, southern US forest area relatively stable since 1940's
  - Except for 5% loss in 1970's due to ag conversion
- Future forest area may change from no net loss to a loss of up to 31 mm acres by 2040
  - Depends upon ag vs. forest returns
- Net loss of forests due to urbanization in some areas
  - Particularly along coasts and Piedmont

Supply—Land Use

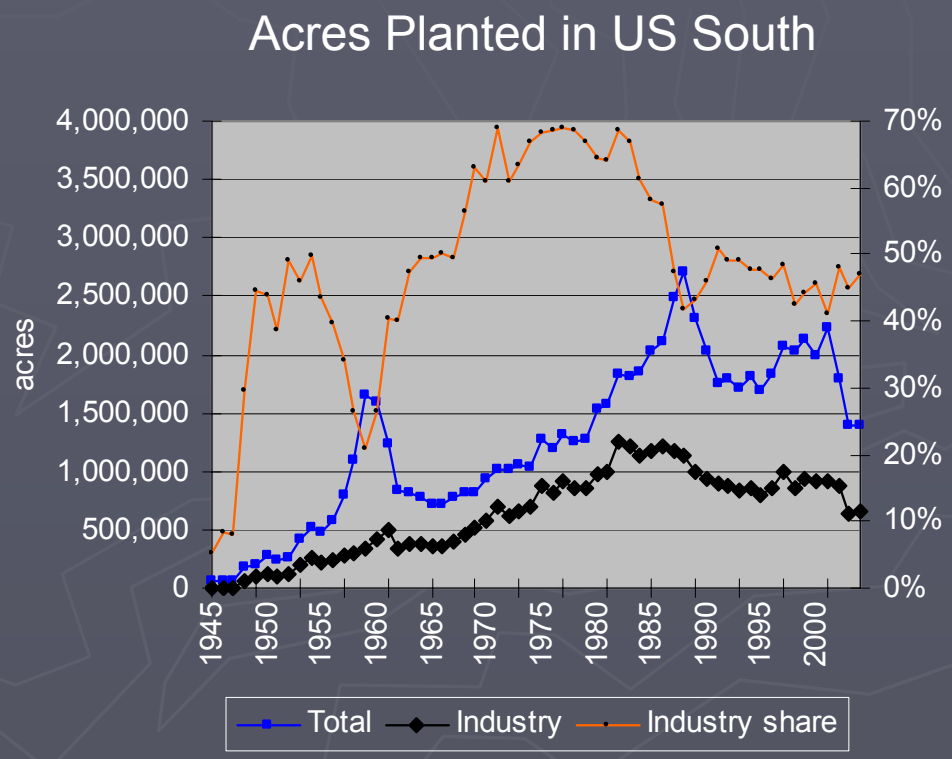
- SFRA findings
- "Weak" demand scenarios (EH and EL)
  - Reduction in forest land (2020)
  - Both planted and nonplanted forests





Supply--Investment

- Plantations have grown from 0 to 32 mm acres from 1945-1999
  - 16% of all timberland
- Industry has highest share of plantings
  - 45-70%
- Non-industry plantings significantly higher during Soil Bank and CRP programs
- Strong expansionary investment through the 90's
- Sharp decline in investment since 2001

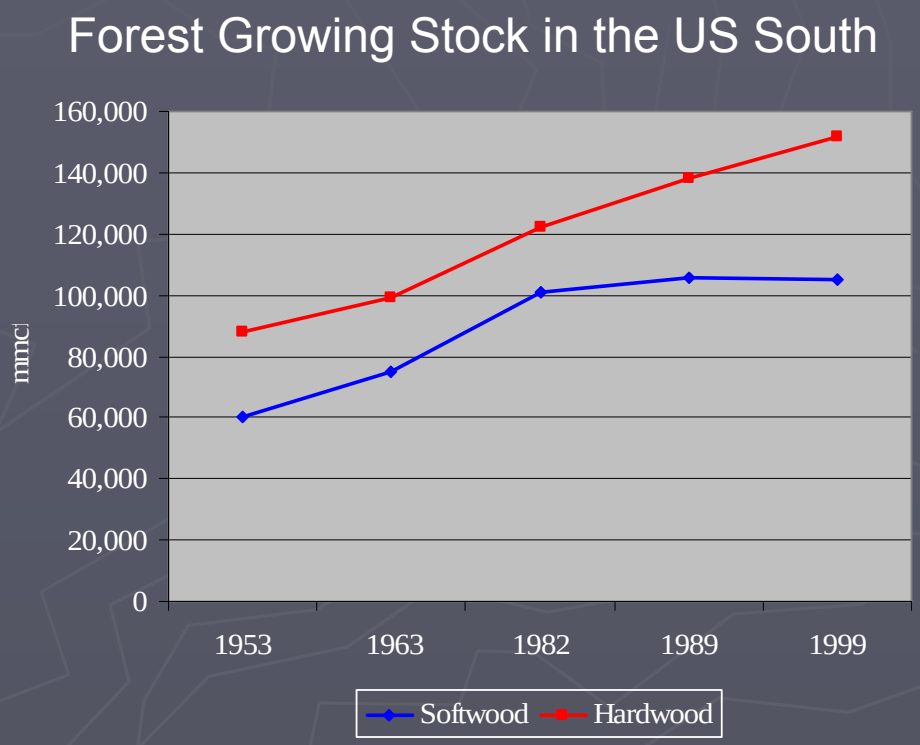


Supply--Ownership

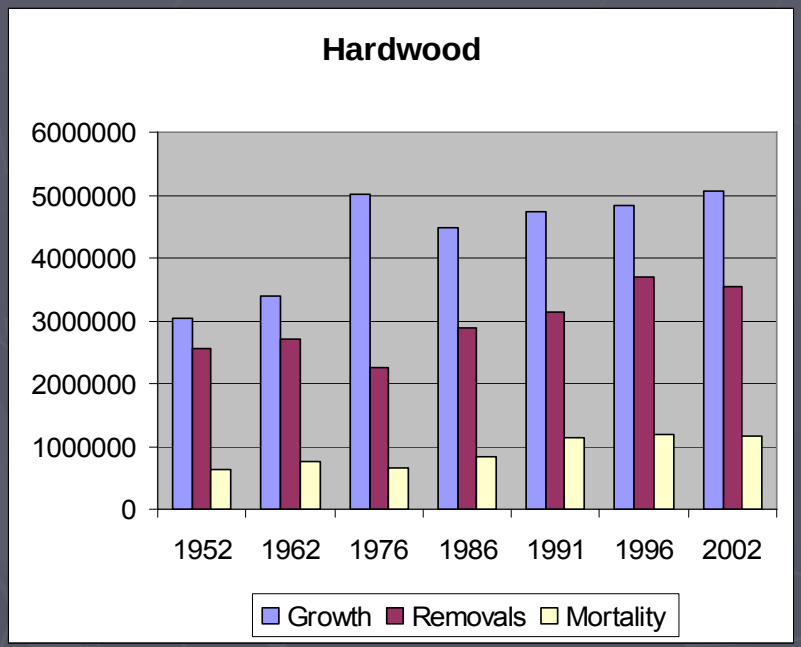
- Current ownership breakdown
  - 69% non-industrial private, 20% industry, 14% other
- Divestiture of industry lands with high share of forest capital
- Shift toward TIMOs
- Increasing urbanization may shift margin between physical and economic availability of timber supplies
  - Increased parcelization, fragmentation in some cases
  - Long run effects on timber supply unknown

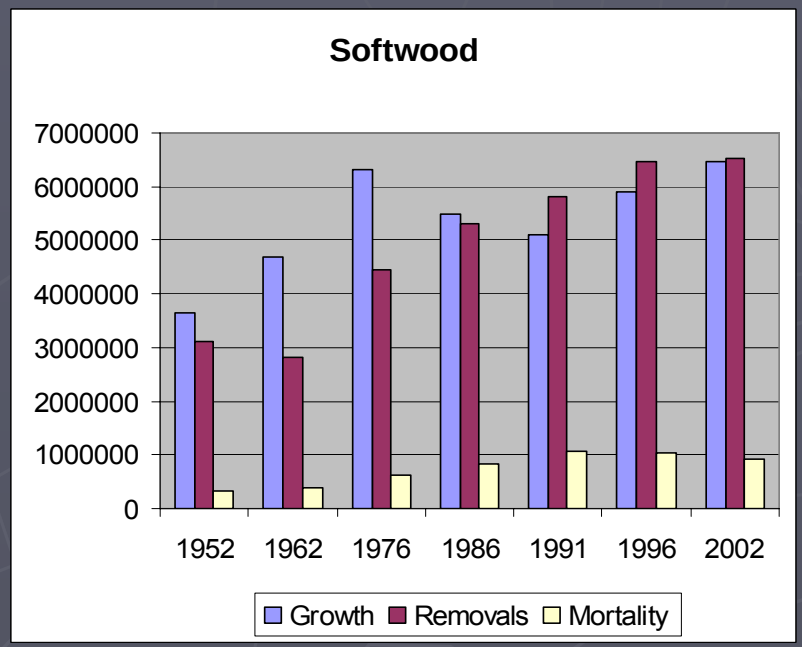
Supply--Inventory

- Overall, softwood inventory stable
  - Growth=removals
  - Market responsive
- Hardwood inventories increasing
  - Growth>removals
  - availability
- Local effects important
  - Shifting production



Supply--Inventory





Growth, removals, and mortality
RPA Data Base, including most recent data (2002)

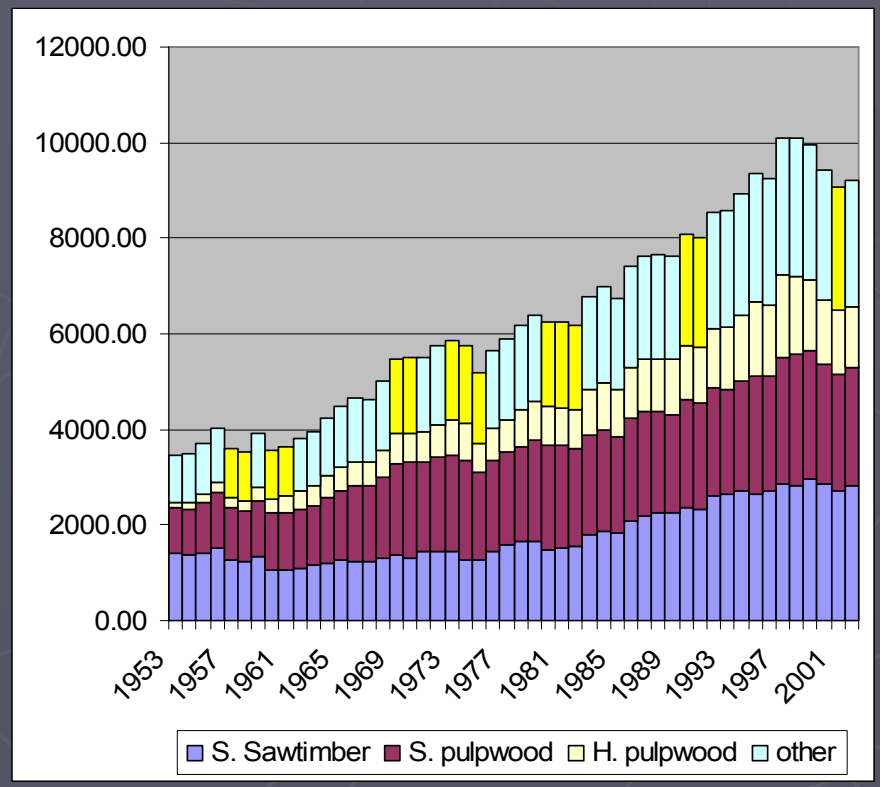
Supply--Conclusions

- Long period of investments in softwood plantations implies no short to medium term reductions in supply
  - Supply is a slow moving factor
- Recent declines in plantation investments indicate long run adjustment to supply
- Localized inventory declines are likely
  - Urban and urbanizing areas

Conclusions

Conclusions

- Markets are NOT going away
  - South has advantage in US
- Southern timber markets are in a period of adjustment after rapid growth in the 1990's
  - This is demand driven
- Important changes in perspective and rhetoric
  - From scarce to plentiful



Key Finding no. 1

- Demand growth has declined
  - Consumption of solidwood has not kept pace with growth in housing starts
  - Per capita consumption of paper has declined
  - Demand for exports has declined
    - Especially chip exports
  - Long run—population growth will fuel expanding demand at a lower rate

Key Finding no. 2

- Domestic timber supply continues to expand
  - Area of timberland roughly constant since 70's
  - Intensive management expanded
  - Expansionary investment continued through the 1990's
  - Supply adjusts with a long lag time

Key Finding no. 3

- Net effect of demand contraction and strong supply is a disproportionately large decline in price relative to harvests.
  - Observed in pulpwood markets since 1998
  - Short run: likely to remain low unless demand expands considerably
  - Long run: contraction of softwood investment leads eventually to decline in economic inventory and price increases

Key Finding no. 4

- Patterns of investment in processing do not indicate growth in demand
  - Solidwood capacity is stable
  - Paper production capacity has declined since the late 1990's
    - 16% reduction in southern pulping capacity since 1997 indicates a sustained decline in demand
  - Pulpwood prices may not rebound to mid-90's levels in foreseeable future

Key Finding no. 5

- Low relative prices for pulpwood defines opportunities for producing other products in the region
  - Ample supply of material for OSB and other engineered wood products
  - Downturns lead to restructuring of industry and increased efficiency (creative destruction)

Key Finding no. 6

- Increasing hardwood pulpwood prices and decreasing softwood prices encourage substitution in paper production
  - Reversal of long trend toward hardwood in paper production
  - Already observed in some operations

Key Finding no. 7

- Imports of hardwood chips indicate a backstop price for hardwood pulpwood in the region
  - Price that draws exports from South America
  - Has this ceiling been reached?
  - Will discourage intensive management of hardwoods

Forest Management Implications

- Landowners need more information regarding risks
  - Physical AND market risks
  - Especially TIMO's
- Rapid changes indicate need for effective monitoring
- Afforestation strategies are altered
  - Marginal cropland—effective conversions?
  - Restoration strategies?
  - Defining low cost approaches that yield ecosystem benefits

Program Implications

- Importance of rhetorical changes
- Without concerns for timber supply—different perspectives on the role of forestry
  - Effects on program support?
  - Who supports programs?
- Loss of support for a large portion of forestry research
  - Long term effects on competitiveness?

Key Uncertainties

- Trade
  - Exchange rates—strength of the dollar
  - International demands
- Housing Markets
- Electronic media (the next generation)
- Industry structure
- Ag policies
  - Response of land to reduction in subsidies

Thank You

- Thanks to our economics task force
  - UGA
  - Texas A&M
  - Mississippi State
  - Florida
  - NC State
  - US Forest Service